

[54] METHOD FOR PREDICTING BREAKING OF WIRE ELECTRODE IN WIRE ELECTRODE TYPE ELECTRIC DISCHARGE MACHINING OPERATION

[75] Inventors: Mohri Naotake, No. 3837-3, Shimadakuroishi, Tenpaku-cho, Tenpaku-ku, Nagoya-shi, Aichi; Nagao Saito, Tokyo, both of Japan

[73] Assignees: Naotake Mohri, Aichi; Mitsubishi Denki Kabushiki Kaisha, Tokyo, both of Japan

[21] Appl. No.: 845,152

[22] Filed: Mar. 27, 1986

[30] Foreign Application Priority Data

Sep. 27, 1985 [JP] Japan 60-214001

[51] Int. Cl.⁴ B23H 1/02

[52] U.S. Cl. 219/69 W; 219/69 S

[58] Field of Search 219/69 S, 69 V, 69 C, 219/69 G

[56] References Cited

U.S. PATENT DOCUMENTS

4,236,057 11/1980 Inoue 219/69 C

4,582,974 4/1986 Itoh 219/69 S

FOREIGN PATENT DOCUMENTS

125934 9/1980 Japan 219/69 C

57-71725 5/1982 Japan 219/69 S

59-30620 2/1984 Japan 219/69 S

573308 9/1977 U.S.S.R. 219/69 S

Primary Examiner—A. D. Pellinen

Assistant Examiner—Geoffrey S. Evans

Attorney, Agent, or Firm—Sughrue, Mion, Zinn, Macpeak and Seas

[57] ABSTRACT

In a wire electrode discharge machining method the breaking of the wire electrode is positively detected by detecting a discharge signal between the wire electrode and the workpiece over a predetermined unit period of time, and then monitoring the average value of high frequency components included in the spectrum of the discharge signal which are independent of the vibration of the wire electrode. When the average value of the high frequency components is found to exceed a predetermined level, countermeasures are taken to avoid the breaking of the wire electrode.

4 Claims, 9 Drawing Figures

